



NITE-TIMES NEWS

CHICAGO AREA TIMEX USERS GROUP

Chicago Area Timex Users Group
Volume 6, Number 5

Downers Grove, Illinois
September/October 1992

MEMORY MAP

ROUTINES

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C.A.T.U.G. CLUB OFFICERS

Here is the list of 1992 club officers and how to contact them. The club has two strong SIGS, SPECTRUM/TS2068 and QL. If you have questions about either of these fine machines or even the ZX81/TS1000/TS1500 call one of the officers. C=312, S=708.

| POSITION | NAME | PHONE | PRIMARY FUNCTION |
|----------------|----------------|-----------|------------------------|
| President | Nazir Pashtoon | S439-1679 | The buck stops here... |
| Vice-President | Steve Cooper | S968-3553 | Meeting Planning, etc. |
| Secretary | Al Feng | S971-0495 | Records and Reporting |
| Treasurer | Frank Mills | S544-1918 | Dues and Purchasing |
| Editor | Bob Swoger | S576-8068 | Newsletter, BBS, etc. |

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NITE-TIMES NEWS

Volume 6, Number 5

September/October 1992

Nite-Times Information

The Nite-Times News is the newsletter of the Chicago Area Timex Users Group. For an annual fee of \$12.00 you can become a CATUG member with full membership privileges. Write your check payable to:

**FRANK MILLS
417 S 47th AVE
BELLWOOD IL 60104**

The Chicago Area Timex Users Group is pleased to exchange newsletters with other Timex and Sinclair supporting users groups at no charge. Send all newsletter requests to:

**CATUG EDITOR BOB SWOGER
613 PARKSIDE CIRCLE
STREAMWOOD IL 60107-1647**

If you desire to reprint any articles that appear here, please provide credit to the author and this newsletter.

We encourage your user group to copy this newsletter and distribute it at your regular meetings to your members free of any charge as we believe that this will encourage better meeting attendance. If you are a user group that feels as we do, please let us know in your newsletter so that we might do this for our members and keep our attendance up.

Articles originating from our group may be downloaded from our BBS and reprinted.

CONTRIBUTORS TO THIS ISSUE

**Jim Brezina
Al Feng
Abed Kahale
Frank Mills
Jay Shepard
Bob Swoger, K9WVY**

CLUB MEETINGS

The Chicago Area Timex Users Group meets on the THIRD

Saturday of each month at the home of our meeting coordinator Steve Cooper in Downers Grove, Illinois from 1:00 to 5:00 PM. Steve's home is lovingly called the CLUB HOUSE and is located at 1300 Maple Street in Downers Grove just 2 blocks southwest of the Downers Grove Public Library. Steve should be contacted evenings at 708/968-3553. to confirm the meeting schedule.

When visiting be careful of the Dutch Dooooooooooooorrrrrrrrr.....

TREASURY NOTES

The balance as of Oct. 01, 1992 is \$263.20 Our current paid membership stands at 18.

**Frank Mills, Treasurer
Chicago Area Timex Users Group**

SECRETARY'S NOTEPAD

%%%%%%%%%%%%%
CAT MINTS
DURING AL'S LAST DAYS
%%%%%%%%%%%%%

**AL A[n] EGGBE[arer]
by Al Feng**

Downers Grove, 15 August 92
-- Koreans love cats. Isn't that an interesting statement which can be taken more ways than one?

So, wouldn't you know it? The first written response [other than Don Lambert's hollow statement that it was not his intent to censor the contents of ZQA!] to anything I've written in NTN all these years are Abed's in the I/O section of the July/August Newsletter.

If Abed seemed a bit upset with me, the fault is mine for being too oblique in my commentary with insufficient preoration to aid the reader.

Specifically, Abed was upset because he did not understand the mathematical "permutations" that I described as "defy(ing)

"normal computation" as being other than a suggestion (by me) that his math skills were suspect.

The form of "mathematics" which I mean(t) to suggest is a form called *gematria* [by linguists and practioners(?)]. Now, this was somewhat akin to using the last (or, archaic) definition in a dictionary listing.

Gematria is the practice of assigning numerical values to the external signs we normally think of as alphabetical letters for the purpose of divination.

A not-so-funny thing happened on my way to applying a pseudo-gematrial interpretation to the "2068 ABED" VALUE and my failed attempts at cleverness truly offended our own Abed Kahale.

This was not my intent.

I am unconditionally sorry for having caused anxiety and/or stress in this matter.

My reference to the "empty coal buckets" was a direct reference to Bob's oft repeated REMARKs that the reason many people use (embrace?) their 2068s is because they can't afford anything else. [Once again Al misquotes me, I stated that the machines were created to give computing power to people with empty coal buckets (limited funds). Ed.]

By echoing Bob's phrase, my intent was to infer that this is not the case with everyone, and that some had chosen to use their 2068 [or, QL] by "choice" (there's a word that's floating around in the political milieu this Fall) and NOT by "necessity" as Bob implies. [I never implied necessity rather than choice, Al. Ed.] That Abed (for example) felt that amongst the PC-type computers only a 486 was sufficiently superior to

the capbilities of his 2068 -- and the software he had written for it -- speaks well for the non-entertainment capabilities of the 2068.

I apparently failed.

Nonetheless, the "theme" of the particular CAT MINTS was to point out that literacy is more than a simple, casual reading of a document or letter; with, the condensation of the theme being presented as a maxim.

The only reason that the maxim was presented on three lines was so the reader might readily see the *Wit* (in 18th Century terms) [the maxim is repeated for reference convenience]:

A MANUAL CAN'T
MAKE YOU
READ IT!

Okay, the first line can be voiced to sound like "*Immanuel Kant*." This should immediately bring to mind Kant's work: *The Groundwork for the Metaphysics of Morals* (as I recall the title).

By chance, if the reader failed to catch it on the first reading, the reference to metaphysics in the succeeding paragraph was intended to trigger the reader's memory, and cause him/her to re-read the maxim.

Of course, metaphysics relates to the ontological; and, the ontological relates to "being or existence"; or, what you make of yourself. Hence, the attempted *Wit* in the "MAKE YOU" statement on the next line when juxtaposed to the first line.

So the third line was my declaration that you/we (the reader) should "READ IT!" and anything else with as much comprehension as possible.

And so, it goes.

Yet, when no reader can

comprehend, then it is as much the fault of the writer as the reader. Paraphrasing Milton, I guess I should suppose that my obliqueness caused my words only to heaven go.

In retrospect (?!?), CAT MINTS was intended to be a humorous title [i.e., something that "Bill the (or, any!) Cat" might use for his/(its) breath] and was probably my attempt at adding some "flavor" to the distasteful task of retelling the occasion of the CATug meetings in the normally formal format of MINuTeS.

So, I apologize to the readers for the general obliqueness as I attempted to humor myself by writing in a non-journalistic manner.

I want to thank Steve for being such a good sport and allowing me to use his name and subsequent alias ('S_teve) in some instances and/or to transfer comparable faux pas committed by others to him.

Now, the reason I am relating this is because the primary news of the month related to my resignation as Secretary and Minutes Taker due to a pending move to other climes (partially dependent on the real estate market), and the acceptance by Jim Brezina to assume the task of Group Secretary.

REWRITING HISTORY? Truth be told, at the July CATUG meeting normally easy going Bob was quite upset at two specific individuals within the TIMEX/SINCLAIR community who are external to our immediate group. Bob's expression of "disappointment" seemed to last more than half the meeting, though one should take this as being more an impression than a quantitative measure.

The situation with the DIABLO printer is what I refer to as a **coincidence of convenience**. It happened, but the illiteracy

exhibited by others to/with Bob was focused and amplified therein.

Okay, one of the questions on the remaining table is whether or not I can understand the modulus of elasticity, or moduli of any sort, for that matter.

How much math facility do I have?

While it may appear to approach the trivial by my recounting, I unintentionally streamlined a fairly standard geometric proof from its "traditional" 12 or 13 lines (depending on how you state your GIVENs) to only 6 (with one being the GIVEN and another being the THEREFORE). This may not sound very exciting on the surface, but it is akin to writing an algorithm in 4 lines instead of 10, with commensurate efficiency/speed. But, that was a very long time ago.

That's it? Ancient history. Can I point to anything more recent?

Well, at a time when I had more brain cells than now, I independently dabbled in theoretical math just long enough to hypothesize as to what happens to "numbers" at infinity-plus-one (and beyond).

Un-(?)/fortunately, I asked my brother [who was at CALTECH at the time] if there was any interest/feasibility in such things, and he said that there wasn't and it couldn't be done; so I dropped the subject, only to find out years later that there is apparently a discipline in theoretical mathematics which wrestles with just this topic. [Of course, my "hypothesis" may be merely a trivialization/duplication of what has since been suggested, or had been suggested in the past].

So, while it has been several years since I took physics and calculus (and, the like), I'd like to think that boredom was the primary reason I chose one of the liberal arts as my major.

One might suppose that while I may not be able to readily perform a calculation for various *moduli*, I might be able to do so.

Regardless, Abed's REMARKS were a good reality check because:

What have/had I done lately?

Not much, it seems. I have been woefully neglectful of a paper [manuscript] which I had been trying to present prior to joining CATUG five years ago ["ARCHAEOASTRONOMY IN CENTRAL ASIA DURING THE UPPER PALEOLITHIC: ON THE ORDERING OF THE EARLY NORTH SEMITIC SIGNS" (yawn, right?)]. The timing is coincidental, and not causative or, is it? (NB: I just thought it would be nice to see the title in print somewhere beside my manuscript or monitor and that is why I am including it within this article!).

While not originally intending to, the paper would apparently discount the life-long work of some brilliant academics in the field of Biblical linguistic scholarship (or, so they would seem to fear publication based on a majority of responses -- I don't know if you can imagine the original reception of my hypothesis, but let me tell you it was almost as unfriendly as Abed's REMARKS).

Science progresses one death at a time.

If you didn't catch it from the title, I am suggesting a non-linguisitc origin to the Early North Semitic Signs (commonly known as Phoenician). So, regular NTN readers know where I'm coming from. Now you know, in part, where I've

been. The future?

My intent is to return to the "wilderness" of the high desert where I will purge my soul and [with the assistance of QUILL] I will revise the presentation of my manuscript in a manner which hopefully finds acceptance.

Oh, about this month's title:

AL A[n] EGGBE[arer]

AL [n] [arer] == Al in error
AL A EGGBE == God is Great
(w/apologies to speakers of Arabic)

"Al an egg bearer" is my plea to **throw eggs** and not stones at me when you are displeased with what I write since I should like to think that eggs are all I might be throwing.

Other than my resignation and Jim Brezina's nomination and acceptance, the only other news related continued interest in the MML.

Also, a reminder of the picnic on August 29th was made, Bob's home, 1 PM.

Not noted in the meeting [but noted by me while reading the JULY QUANTA and confirmed after the meeting] was a similarity between Nazir's four-in-one multi-QDOS GIZMO design specs (previously related in these pages) and the dual-QDOS circuit board advertised for sale by [John Butterworth & company of] the East Anglia (QUANTA Sub-)Group in England. Was this simply a design coincidence? Perhaps, but Nazir had previously sent a fully detailed schematic and explanation to Butterworth several/many months ago.

HMMmm. It seems (evidenced by flakey video output -- monitor confirmed "good" on a 2068) that the PS on Steve's QL may be going through some death

throes; but, that hasn't been confirmed.

This again underscores one of the "weak-links" in the design and/or manufacture of the QL [ultimately resolvable with either the multi-line, (Dan) Elliott-type hook-up or one similar to the four-wire hook-up that I use].

Finally, thanks to Bob for realizing that an open forum is really the best choice for an editor.

That's all the news that isn't.

HAPPY TRAILS,
AND COMPUTING, TO YOU ...

Al Feng, Secretary
Chicago Area Timex Users Group

SEPTEMBER 19, 1992

Meeting was called to order at 2:00 P.M. Present were Mssrs. Brezina, Pashtoon, Swoger, Mills, Cooper, Feng, Kahale, and Sauter. What an event we had! THE MOUNTAIN CAME TO MOHAMMAD! We had three visitors; Paul Holmgrin, his son, and Frank Davis. They brought the ComputerFest to us! Our group was unable to go to Dayton because of our annual picnic was on that very weekend. CATUG combines with the Motorola MicroComputer Club and the Glenside Color Computer Club of Illinois for the event.

We had everybody introduce themselves and tell what equipment they used. Frank Davis and Paul Holmgrin gave a report on the Dayton ComputerFest since none of our members attended. They reported that quite a few Sinclair users and old friends were there.

We had quite a discussion. Most of it was on Quanta, which was mostly initiated by our main QL user, Al Feng. By the way, Al and his wife Mary are leaving us and moving out to New

Mexico. Look out QZX!

Frank and Paul brought up a bunch of boxes of "goodies" so we adjourned the meeting at 3:36 P.M. so we could see the "goodies". Some of the members bought some of them including yours truly who finally bought a TS2050 MODEM. They had both cased and uncased units. Not trusting uncased units, I purchased a cased one and now have to learn to use it. The asking price was the same as RMG but, I didn't have to pay S & H.

James F. Brezina, Secretary
Chicago Area Timex Users Group

FROM THE EDITORS DISK

WHAT TO DO WHEN YOU'RE DONE WITH IT

It has been suggested that as we change from one computer platform to another that we pass off our old machines to schools or other institutions, maybe to get a tax break. Here is a little insight I got by being on the alumni board of a school. If you call the school, they will tell you that they are interested in used computers, but when they get them, they are usually thrown out as junk. They simply don't want to 'turn off' their 'givers'. These places are really only interested in the later 'main stream' models and clones. Don't think that your old classics will find their way to the hands of some needy youngster, they will probably be junked and lost to the people who need them most!

So what would be better for the community still using classics? Donate your classic to a supporting user group or get them to a computerfest. There are people giving up on their classics only because they can't afford to fix them or can't find a place to get them fixed. I have seen this situation more often recently.

Just read the ads in this newsletter. Those long list of items were donated by people that had no back-ups. You may not get a tax write off but you will probably make classic owners happy to get a back-up machine for when the inevitable happens and allow that classic user to continue on happily forever!

WHAT TO DO IF YOU'RE GOING TO KEEP IT

You owners of classic machines, keep watching for opportunities to get back-ups for your equipment from these sources, don't be afraid to make even a ridiculous offer, for you will be surprised to find that there will be takers, they want the gear to wind up in good hands and out of their homes to make room for their new stuff!

Bob Swoger, Editor
Chicago Area Timex Users Group

GATOR's TWISTED PAIR

!!!! REMEMBER !!!!
We now have a 24 hour BBS and encourage you to exchange mail and contribute to the Download Section. Use it and have fun!

The board has become semi-private at this time. Please call Bob Swoger at 708/576-8068 for information as to how to log on.

Bob Swoger, SYSOP
Chicago Area Timex Users Group

ITEMS FOR SALE THROUGH THE CLUB

It has come to our attention that some LarKen Users are using something less than Version 3 firmware. The club will supply updated EPROMS, SYSTEM DISKS, and MANUALS for just \$5 which includes shipping and handling, free if ordered with LogiCall or Spectrum ROM.

If you are a LarKen LK-DOS owner and would like a SPECTRUM

V2 kit for your system we will supply an EPROM, socket and 74HCT32 for \$12 which includes shipping and handling. The install instructions are in your LarKen manual. We shall not be responsible for your install job. AERCO owners need only the SPECTRUM EPROM for \$10 \$10 is forwarded to LarKen.

If you have a mismatch between your LarKen DOS EPROM and your Western Digital Controller chip, we will send you the correct one for free on behalf of our friends Rod Gowen of RMG and Larry Kenny of LarKen. You should be using L3 EPROMs with WD1770 controller chips or L3F EPROMs with WD1772 controller chips. Check it out! Call in requests to Bob Swoger at 708-576-8068 H708-837-7957

SPECIAL DEALS AND BUYS

NAP_Ware (Nazir A. Pashtoon's new endeavor) announces the availability of all Timex or QL PAL (Programmable Array Logic) chips. If interested, call him evenings on 708-439-1679.

LogiCall Integrated Software Ensemble easy operating system for LKDOS in both TS2068 and Spectrum modes includes LogiCall 4.8 TASWORD TWO V2.7, VU-CALC V1.3, VU-FILE and MTERM2 Drivers modified for LogiCall, DISKS.B1 TAPES.B1 steprt.B1 HEADER.BT (tape header reader by Nazir Pashtoon) FORMAT.B MOVE.BL and more all on 2 SSDD disks for \$5. You must specify your LK-DOS EPROM version. If you already have a copy you are encouraged to distribute copies to other LarKen LK-DOS users for as you see by the price we are not in the business of making money on it, just making LarKen's LK-DOS even better!

So you like to fly? The 747 Flight Simulator for Spectrum by Derek Ashton of DACC sold over 40K copies in EUROPE. Requires Spectrum Emulator. At this time supplied on LarKen

SSDD disk only for \$10 which goes to Derek Ashton, now working at MOTOROLA with Bob Swoger. Call in requests to Bob at W708-576-8068 H708-837-7957

Want to try MS-DOS first before you switch? Try QLuMSi DOS, the MS-DOS SIMULATOR on your QL first.

QLuMSi (disk/specify)\$15

Try Al's Side-Kick on your QL. It is an Auxiliary Operating System (AOS) like LogiCall and can make your life on the QL a lot easier [you may never lust for MS-DOS again!]

QLUSTER (disk/specify)\$10

CALL: Al Feng H(708) 971-0495

ARTICLES

TRANSFERRING Z-88 FILES TO THE 2068

by John Shepard

I got my Z-88 so I could have a truly portable computer. Not a TS2068 or TS1000 in a suitcase, but a real laptop, at a price that was affordable. I wanted a Sinclair product on which I could continue my efforts while on the road on my job, maybe use it as an enhancement to my job. (That has worked out.) So, I appealed to the Timex community through N/Ls. I used my local (HA! I'm in Iowa, local is Chicago) UG, CATUG & its N/L 'NITE-TIMES NEWS' and ZXir QLive Alive! I was answered with not one, but five offers, and one was within my price range and worked. This was how I met Dave Bennett (more on him later), but he told me of the seller who was selling it for a friend and even with this kind of third party relationship she took my personal check, packaged it up with bubble wrap, PC Link, a power supply, and fresh batteries. Isn't this a great group we're in??! Now with batteries in their slot, a rechargeable set from Lee at Macro Systems, Salt Lake City,

Utah and the Realistic Power supply, my memory is almost non-volatile.

My only problem was how to archive my files. I don't have a PC, MAC, or QL so the Link SW is out, nor did I want to support it. I couldn't afford the \$450 disk drive that is offered by Domino Cubes. What I wanted to do was typically something no one seemed to be doing - using what I had - a TS2068. There seemed to be no easy road. There is no Import-Export program available for the TS2068 nor is there a serial hardware/software package readily available. Oh sure, if you've got a Z I/O IF or a TS2050 PCB you can hack one out, - you might have the hardware, but the software????

So, when Frank Davis and then Dave Bennett mentioned a null modem, in passing, they really had my interest. Especially, since this type of transfer could help me get around the need for a serial to parallel converter needed to print straight from the Z-88. They are expensive, about \$100, this may not be much to you, but with 5 children and a middle income, you have an idea of my budget constraints. Back to the null modem, where if I understand it correctly, you cross the Receive and Transmit wires and use a modem program without a modem. Probably, not real accurate but as close as any user who's out in the sticks without a UG to go across the street and compare notes.

So, as I was searching Dave Bennett, came to my rescue and suggested I could somehow use Z-88COM (Z-88's modem program.) and a BBS on the TS2068. Here I must tell you that without Dave Bennett I would be using my Z-88 for a doorstop not my ZX81. Dave bent over backwards trying to help this ignoramus deal with his failings. His first contact with me & my

Z-88, was to send me a PC disk full of Z-88 programs and utilities that could be had as soon as I discovered the difference between a 286 and 386 based PC. Talk about incompatibility, Timex/Sinclair machines have got nothing on IBM, right HAL? I have called Dave time and time again, written many stupid questions, and even borrowed equipment, me a perfect stranger, but a fellow Sinclairest in trouble. The same can be said of Bob Swoger who has listened many times to my whining, much to the dismay of his lovely wife, Annette, but there has been light at the end of the tunnel. Not as bright as I would like, but close.

I can transfer files. I can archive them with disk on my LKDOS TS2068. But, if my Z-88 crashes its modem program I haven't figured how to get it back from the TS2068, with no readily, recognizable or operable transfer program, method, SW.

The phone line connection is not a straight wire. I could not get the Hayes compatible modem for the Z-88 to call without a dial tone to start it off. I had to take the phone line from the Hayes and one from the TS2050 and plug them both into one of those phone jack modules that lets you plug two into one. Then you have to get household security to break the fingers of any teenager or otherwise who dares to pick up any other phone during your transfer. Next we'll set up the Z-88. When it's on, set your parameters on the Panel ([] S) to 300 BAUD - RECEIVE & TRANSMIT Parity - NONE, XON/XOFF - No. That "[]", (left and right bracket) is to symbolize the square symbol on the Z-88 keyboard where [] S will get you to the Z-88 Panel. With your parameters set, LOAD Z88COM.BAS into BASIC and RUN after the M/C is LOADED the menu will come up.

On the LarKen TS2068, LOAD MaxCom.B1 and set it up to AUTO ANSWER as a BBS, Bob Swoger or I can help, (sorry Bob) if you have any questions.

Once it's set, go to the Z88COM menu and press G, this will take you to the V-52 terminal where you can access the Hayes modem with an ATDTXXX-XXXX where the X's are your phone number, the ATD tells the modem you want to dial a number and the second T says it will be a tone rather than a pulse. Some of you may find this all rudimentary, but I had no idea that these Hayes Commands were a standard, maybe someone else won't know either.

Anyway, when you dial your own number you will of course get a busy signal, after that press enter on your Z-88, when the terminal responds and waits, type ATA - Enter. This will send a modem carrier. If you have done it quick enough, in the time the TS2050 sends its carrier before it times out you'll get a connect. When you do, Enter the BBS and go to the menu to Upload a program with a U at the prompt. It will ask you for the file's name with an LKDOS extension, ie., X.CT where X can be the name of your Z-88 file or any name you want to call it. Then it will ask if you want headers say yes and it will go to Receive. Now go to the V-52 Terminal and press [] B for BASIC to get to the Z88COM menu where you'll press S to Send a file, the SEND menu asks for the name of the file you have in the RAM, pre-selected by the Panel, that you wish to SEND and you're off. Using XMODEM there can be no glitches while I've used this method, since you have a "captive, dedicated" phone line (except for teenagers) it will go error free. When the file is transferred, MAXCOM will SAVE it, on disk, to the file you named and you're home free. Or as Bob Swoger says, ENJOY!

GRAPHIC SCREEN\$ DUMP

for the Tandy DMP105

by:-

A. Kahale

335 W. Newport Rd.
Hoffman Est., IL 60195

CATUG

This printer is not supported by any software that I know of, having a non Centronics protocol but a fairly good 7 pin head dot matrix with graphics capability. The 176 vertical pixels divided by 7 do not result in an integer number. So, after a two hours session with Bob Swoger, the following program was developed and it worked, but SLOW, 15 minutes for the screen dump. Later on, I was able to convert the working part of the program to M.C. using the Timachine compiler. Now it only takes 20 seconds for Brooke\$ minus a piece of chin.



```
1 REM TANDY DMP105 PRINTER DRIVER
2 REM Abed Kahale 10/91 CATUG
4 REM CLEAR 64769: REM Start address-1
5 REM RANDOMIZE USR 100: LOAD "PDRVR.CC" CODE 64770
10 PAPER 1: INK 9: BORDER 1: CLS
20 RANDOMIZE USR 100: OPEN #3,"LP"
30 RANDOMIZE USR 100: POKE 16092,0: REM NO LINE FEED
50 RANDOMIZE USR 100: POKE 16093,32: REM LPRINT & CHR$ sent
to printer
60 LPRINT CHR$ 10: REM Line feed
65 REM LPRINT CHR$ 27;CHR$ 19: REM PICA gives elongated pict
ure
80 LPRINT CHR$ 27;CHR$ 23: REM ELITE gives correct picture
90 REM LPRINT CHR$ 27;CHR$ 20: REM CONDENSED gives narrow pi
cture
95 RANDOMIZE USR 100: LOAD "B.C$"SCREEN$
100 LPRINT CHR$ 18: REM Puts printer in graphics mode
110 REM RANDOMIZE USR 64770
120 REM !INT R,C,B: REM TIMACHINE Instructions
130 REM ! LPRINT
150 REM ! OPEN #: REM TIMACHINE starts
155 FOR Y=0 TO 175 STEP 7: LET R=175-Y: REM vertical pixels fr
om the top
160 FOR C=0 TO 255: REM Horizontal pixels
170 LET R=0
180 LET R=R+POINT (C,R-1)
190 LET R=R+2*POINT (C,R-2)
200 LET R=R+4*POINT (C,R-3)
210 LET R=R+8*POINT (C,R-4)
220 LET R=R+16*POINT (C,R-5)
230 LET R=R+32*POINT (C,R-6)
240 LET R=R+64*POINT (C,R-7)
250 LET R=R+128
255 IF IN 127<>108 THEN GO TO 255: REM Checks if busy
260 LPRINT CHR$ B;
270 NEXT C
280 LPRINT CHR$ 27;CHR$ 90;CHR$ 0: REM carriage return
290 NEXT Y
300 LPRINT CHR$ 27;CHR$ 30: REM Back to character mode
310 REM ! CLOSE #: REM TIMACHINE ends
320 STOP
```



4 TIMES SCREEN

Abed Kahale, 335 W. Newport Rd. Hoffman Estates, IL 60195

Since my last article on the Tandy DMP105 printer, modifications were made to screen dump 4 times the normal size to about a half page worth. Also the print head is now controlled so it can print/plot to any location on the page. The program should be applicable to other printers with proper modifications. To obtain a negative (inverse video) add NOT. NOT POINT(C,R-xx)

```
1 REM TANDY DMP105 PRINTER DRIVER
2 REM Abed Kahale 11/91 CATUG
20 RANDOMIZE USR 100: OPEN #3,"LP"
30 RANDOMIZE USR 100: POKE 16092,0: REM No line feed
50 RANDOMIZE USR 100: POKE 16093,32: REM LPRINT & CHR$ to printer
60 LPRINT CHR$ 10: REM Line feed (otherwise double spacing)
80 LPRINT CHR$ 27;CHR$ 23;CHR$ 27;CHR$ 14;CHR$ 18: REM Elite, Elongated & graphic mode
```

```
90>LPRINT CHR$ 27;CHR$ 16;CHR$ 0;CHR$ 35:REM Locates head (margin) at 35 pixels from left
95 RANDOMIZE USR 100: LOAD "S.C$SCREEN$"
155 FOR Y=0 TO 175 STEP 3.5: LET R=175-Y: REM vertical pixels twice (for 7-pin head)
160 FOR C=0 TO 255: REM Horizontal pixels twice
170 LET B=0
180 LET B=B+POINT (C,R-.5): REM divided by 2
190 LET B=B+2*POINT (C,R-1): REM      .   .
200 LET B=B+4*POINT (C,R-1.5): REM      .   .
210 LET B=B+8*POINT (C,R-2): REM      .   .
220 LET B=B+16*POINT (C,R-2.5): REM      .   .
230 LET B=B+32*POINT (C,R-3): REM      .   .
240 LET B=B+64*POINT (C,R-3.5): REM      .   .
250 LET B=B+128
255 IF IN 127<>108 THEN 60 TO 255: REM Checks if busy
260 LPRINT CHR$ B;
270 NEXT C
280 LPRINT CHR$ 27;CHR$ 90;CHR$ 0: REM carriage return
290 NEXT Y
300 LPRINT CHR$ 30: REM Back to character mode
320 STOP
9500 REM LIST PRINTER DRIVER
```



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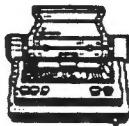
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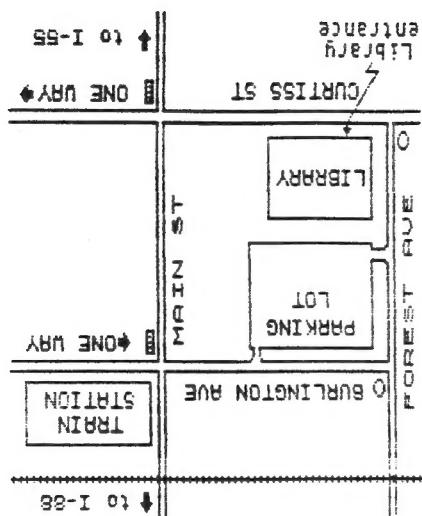
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